

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
26 May 2005 (26.05.2005)

PCT

(10) International Publication Number
WO 2005/046735 A1

(51) International Patent Classification⁷: **A61K 49/00**, C12Q 1/00, G01N 21/76

(21) International Application Number: PCT/US2004/037314

(22) International Filing Date: 8 November 2004 (08.11.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data: 60/518,605 7 November 2003 (07.11.2003) US

(71) Applicant (for all designated States except US): NEW-PORT INSTRUMENTS [US/US]; 5648 Toyon Road, San Diego, CA 92115 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): LEIF, Robert, C. [US/US]; 5648 Toyon Road, San Diego, CA 92115 (US). YANG, Sean [US/US]; 11012 Delphinus Way, San Diego, CA 92126 (US). VALLARINO, Lidia [US/US]; Department of Chemistry, Virginia Commonwealth University, 1001 W. Main Street, Box 2006, Richmond, VA 23284-2006 (US).

(74) Agents: NATH, Gary, M. et al.; Nath & Associates PLLC, 1030 15th Street N.W., 6th Floor, Washington, DC 20005-1503 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

A1

WO 2005/046735

(54) Title: A REAGENT SYSTEM AND METHOD FOR MODIFYING THE LUMINESCENCE OF LANTHANIDE(III) MACROCYCLIC COMPLEXES

(57) Abstract: Disclosed is a spectrofluorimetrically detectable luminescent composition consisting essentially of at least one energy transfer acceptor lanthanide(III) complex having an emission spectrum maximum in the range from 300 to 2000 nanometers and a luminescence-enhancing amount of at least one energy transfer donor selected from the group consisting of a fluorophore, a lumiphore, an organic compound, a salt of an organic ion, a metal ion, a metal ion complex, or a combination thereof. Such energy transfer donor enhances the luminescence of at least one energy transfer acceptor lanthanide(III) complex, with the conditions that the emission spectrum of any energy transfer donor differs from that of its energy transfer acceptor lanthanide(III) complex; and such energy transfer donor can be dissolved to form a unitary solution in a solvent having an evaporation rate at least as great as that of water.